

In re Patent Application of:
AMMAR ET AL.
Serial No. **Not Yet Assigned**
Filing Date: **Herewith**
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In the Claims:

Claims 1-16 (CANCELLED)

17. (CURRENTLY AMENDED) A method of interfacing a ceramic dielectric substrate having a surface on which radio frequency circuits and microstrip lines are formed, and at least one MMIC chip opening dimensioned for receiving a MMIC chip, at least one microwave monolithic integrated circuit (MMIC) received through the opening, and metallic and a metallic carrier having a coefficient of thermal expansion (CTE) that is not matched with the ceramic substrate and the MMIC and secured to the dielectric substrate comprising the steps of:

forming a pedestal on the carrier on which the MMIC chip is received for connection to the radio frequency circuits and microstrip lines;

segmenting the carrier with stress relief portions to form subcarriers; and

bonding the carrier with the ceramic dielectric substrate by an adhesive positioned at an area defined by the subcarriers such that the stress relief portions and formed subcarriers provide stress relief during expansion and contraction created by temperature changes.

18. (ORIGINAL) A method according to Claim 17, wherein the step of segmenting the carrier comprises the step of etching the carrier to form the stress relief portions.

In re Patent Application of:
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19. (ORIGINAL) A method according to Claim 17, and further comprising the step of forming grooves on the carrier for segmenting the carrier into subcarriers.

20. (ORIGINAL) A method according to Claim 17, and further comprising the step of forming cut lines through the carrier for segmenting the carrier into subcarriers.

Please add new Claims 21-37 as follows:

21. (NEW) A method according to Claim 20, and further comprising the step of forming cut lines through the side of carrier opposite the side to which the dielectric substrate is attached.

22. (NEW) A method according to Claim 17, and further comprising the step of forming the carrier from substantially copper or aluminum.

23. (NEW) A method according to Claim 22, and further comprising the step of forming the carrier from nickel plated copper.

24. (NEW) A method according to Claim 17, and further comprising the step of forming the pedestals by etching.

25. (NEW) A method according to Claim 17, and further comprising the step of attaching a MMIC chip to the pedestal using an adhesive.

In re Patent Application of:
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26. (NEW) A method according to Claim 17, and further comprising the step of securing the carrier and dielectric substrate by an adhesive.

27. (NEW) A microwave monolithic integrated circuit (MMIC) assembly comprising:

a dielectric substrate having a least one MMIC chip opening dimensioned for receiving a MMIC chip;

a carrier secured to the dielectric substrate and having at least one raised pedestal that is positioned at the MMIC chip opening and adapted to receive thereon a MMIC chip; and

stress relief portions formed in the metallic carrier that provide stress relief during expansion and contraction created by temperature changes.

28. (NEW) A microwave monolithic integrated circuit (MMIC) assembly according to Claim 27, wherein said dielectric substrate comprises radio frequency circuits and microstrip lines adapted to connect to a MMIC chip when a MMIC chip is secured on the pedestal.

29. (NEW) A microwave monolithic integrated circuit (MMIC) assembly according to Claim 27, wherein said stress relief portions segment the metallic carrier into subcarriers.

30. (NEW) A microwave monolithic integrated circuit (MMIC) assembly according to Claim 27, wherein said carrier is adhesively bonded to said dielectric substrate.

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31. (NEW) A microwave monolithic integrated circuit (MMIC) assembly according to Claim 27, wherein said stress relief portions comprise cut lines.

32. (NEW) A microwave monolithic integrated circuit (MMIC) assembly according to Claim 31, wherein said cut lines extend through said carrier.

33. (NEW) A microwave monolithic integrated circuit (MMIC) assembly according to Claim 31, wherein said cut lines are formed by etching.

34. (NEW) A microwave monolithic integrated circuit (MMIC) assembly according to Claim 27, wherein said carrier is formed from a material having a different coefficient of thermal expansion from said dielectric substrate.

35. (NEW) A microwave monolithic integrated circuit (MMIC) assembly according to Claim 34, wherein said carrier is formed from a metallic material.

36. (NEW) A microwave monolithic integrated circuit (MMIC) assembly according to Claim 35, wherein said carrier is formed from aluminum or copper.

37. (NEW) A microwave monolithic integrated circuit (MMIC) assembly according to Claim 27, wherein said at least one pedestal is formed by etching.